

SEQUENCE LISTING

<110> KOHARA, Michinori
WATANABE, Tsunamasa
TAIRA, Kazunari
MIYAGISHI, Makoto
SUDO, Masayuki

<120> oligoribonucleotide or Peptide Nucleic Acid Inhibiting the Function of Hepatitis C Virus

<130> 382.1047

<140> PCT/JP04/000605
<141> 2004-01-23

<150> JP 2003/016750
<151> 2003-01-24

<160> 56

<170> PatentIn Ver. 2.1

<210> 1
<211> 500
<212> DNA
<213> Hepatitis C virus

<400> 1
gccagccccc tgatgggggc gacactccac catgaatcac tccccctgtga ggaactactg 60
tcttcacgca gaaagcgtct agccatggcg ttagtatqag tgtcggtcag cctccaggac 120
ccccccccc gggagagccca tagtgtgtcg cggaaaccgtt gactacaccg gaattgcccag 180
gacgaccggg tcctttcttg gatcaacccg ctcatacgctt ggagatttgg gcgtgcccc 240
gcaagactgc tagccgagta gtgttgggtc gcgaaaggcc ttgtgttact gcctgatagg 300
gtgcttgcga gtgccccggg aggtctcgta gaccgtgcac catgagcactg aatcctaacc 360
ctaaaaaaaaaa aaacaaaacgt aacaccaacc gtcgcccaca ggacgtcaag ttcccgggtg 420
gcggtcagat ctttgggttggg gtttacttgc tgccggtcag gggccctaga ttgggtgtgc 480
gcgcgacgag aaagacttcc 500

<210> 2
<211> 500
<212> DNA
<213> Hepatitis C virus

<400> 2
cgattggggg cgacactcca ccatagatca ctccccctgtg aggaactact gtcttcacgc 60
agaaaaggcgtc tagccatggc gtttagtatqag gtgtcggtcag gcctccagga ccccccctcc 120
cgggagagcc atagtgggtct gcggaaaccgg tagtacacc ggaattgcca ggacgaccgg 180
gtcctttctt gatcaaccc gctcaatgcc tggagatttgg ggcgtgcccc cgcgagactg 240
ctagccgagt atgttgggt cgcgaaaggcc ttgtgttact tgcctgatag ggtgcttgcg 300
agtccccggg gaggtctcgat agaccgtgca ccatgagcact gaaatcctaacc cctcaaagaa 360
aaaccaaaccg taacaccaac cggcccccac aggacgtcaa gttcccccggc ggtggtcaga 420
tcgttgggtgg agtttacctg ttgccggtcag gggcccccag gttgggtgtg cgcgcgcccc 480
gaaagacttc cgagcggtcg 500

<210> 3
<211> 500
<212> DNA
<213> Hepatitis C virus

<400> 3
ttggggcga cactccacca tagatcactc ccctgtgagg aactactgtc ttcacgcaga 60

aagcgtctag ccatggcggtt agtatgagtg ttgtgcagcc tccaggaccc cccctcccg 120
gagagccata gtggtctgcg gaaccggtaa gtacaccgga attgccagga cgaccgggtc 180
ctttcttggaa tcaacccgcgtt caatgcctgg agatttgggc gtgccccccgc gagactgcta 240
gccgagtagt gttgggttcgc gaaaggccctt gtggtaactgc ctgataggtt gcttgcgagt 300
gccccggggat gtctcgtaga ccgtgcatca tgagcacaaa tcctaaacctt caaagaaaaaa 360
ccaaacgtaa caccAACCGC CGCCCCACAGG ACGTTAAGT CCCGGGCGGT GGTCAAGATCG 420
ttggtggtt ttacctgttgc ccgcgcaggg gcccaggtt gggtgtgcgc gcgacttagga 480
agacttccga gcggtcgcaa 500

<210> 4
<211> 500
<212> DNA
<213> Hepatitis C virus

<400> 4
gggccagccc ccgattgggg gcgcacactcc accatagatc actccctgtt gaggaactac 60
tgtcttcacg cagaaagcgtt ctagccatgg cgtagtatgtt agtgcgtgc agcctccagg 120
accccccctc cccggagagc catatgtggc tgcggaaacgg gtgagttacac cggaaattggcc 180
aggacgaccg ggtcctttctt tggatcaacc cgctcaatgc ctggagatgg gggcgtgccc 240
ccgcgagact gctagccgag tagtgggggg tgcgcgaaagg ccttggta ctgcctgtata 300
gggtgcgttc gagggtctcg tagaccgtgc atcatgaca caaatcccaa 360
accccaaaga aaaacccaaac gtaacaccaa ccgtcgccca caggacgtca agttcccccgg 420
tggtggtcag atcggttgcgtagtttaccc gttgcgcgc agggccccca gggtgggtgt 480
gcgcgcgact aggaagactt 500

<210> 5
<211> 500
<212> DNA
<213> Hepatitis C virus

<400> 5
acccgcgcgc taataggggc gacactccgc catgaatcac tcccctgtga ggaactactg 60
tcttcacgca gaaagcgtctt agccatggcg ttagtatgatgtt tgcgtacag cctccagggcc 120
ccccccctccccc gggagagccatgtgtctcg cgaaaccgggtt gatgtacaccg gaattggccgg 180
gaagacccggg tcctttctt gataaaaccccg ctctatgccc ggccattttgg gcgtgcccccc 240
gcaagactgc tagccgagta gcgttgggtt gcgaaaggcc ttgtggtaacttgcctgtatagg 300
gtgcttgcga gtggcccccggg aggtctcgatgc gaccgtgcac catgagcaca aatcctaaac 360
ctcaaaagaaaa aacccaaaga aacactaacc gtcgccccaca agacgttaag tttccggcg 420
gcggccagat cgttggcgatgtataacttgc tgccgcgttag gggccccaga ttgggtgtgc 480
gcacagcaag gaagacttgc 500

<210> 6
<211> 500
<212> DNA
<213> Hepatitis C virus

<400> 6
acccgcgcgc taataggggc gacactccgc catgaatcac tcccctgtga ggaactactg 60
tcttcacgca gaaagcgtctt agccatggcg ttagtatgatgtt tgcgtacag cctccagggcc 120
ccccccctccccc gggagagccatgtgtctcg cgaaaccgggtt gatgtacaccg gaattggccgg 180
gaagactgggg tcctttctt gataaaaccccg ctctatgccc ggccattttgg gcgtgcccccc 240
gcaagactgc tagccgagta gcgttgggtt gcgaaaggcc ttgtggtaacttgcctgtatagg 300
gtgcttgcga gtggcccccggg aggtctcgatgc gaccgtgcac catgagcaca aatcctaaac 360
ctcaaaagaaaa aacccacaga aacactaacc gtcgccccaca agacgttaag tttccggcg 420
gcggccagat cgttggcgatgtataacttgc tgccgcgttag gggccctaga ttgggtgtgc 480
gcacagcaag gaagacttgc 500

<210> 7
<211> 500
<212> DNA

<213> Hepatitis C virus

<400> 7

```
acccgccccct aataggggcg acactccgcc atgaaccact cccctgttag gaactactgt 60
cttcacgcag aaagcgtcta gccatggcgt tagtatgagt gtcgtacagc ctccaggccc 120
ccccctcccg ggagagccat agtggctgc ggaaccgggtg agtacaccgg aattgccccgg 180
aagactgggt ctttcttgg ataaacccac tctatgccc gtcatttggg cgtgcccccg 240
caagactgct agccgagtag cgttgggttg cgaaaggcct tgtgtactg cctgataggg 300
tgcttcgag tgccccggga ggtctctgt accgtgcacc atgagcacaa atcctaaacc 360
tcaaagaaaa accaaaagaa acaccaaccg tcgcccacaa gacgtaagt ttccgggcgg 420
cgccagatc gtggcggag tatacttggt gccgcgcagg ggcccccaggt tgggtgtgcg 480
cgcgacaagg aagacttcgg 500
```

<210> 8

<211> 500

<212> DNA

<213> Hepatitis C virus

<400> 8

```
acctgccccct aataggggcg acactccgcc atgaatcaat cccctgttag gaactactgt 60
cttcacgcag aaagcgccta gccatggcgt tagtatgagt gtcgtacagc ctccaggccc 120
ccccctcccg ggagagccat agtggctgc ggaaccgggtg agtacaccgg aattgccccgg 180
aagactgggt ctttcttgg ataaacccac tctatgccc gccatttggg cgtgcccccg 240
caagactgct agccgagtag cgttgggttg cgaaaggcct tgtgtactg cctgataggg 300
cgcttcgag tgccccggga ggtctctgt accgtgcacc atgagcacaa atcctaaacc 360
tcaaagaaaa accaaaagaa acaccaaccg tcgcccacaa gacgtaagt tcccgggcgg 420
cgccagatc gtggcggag tatacttggt gccgcgcagg ggcccccaggt tgggtgtgcg 480
cgcgacaagg aaaacttcgg 500
```

<210> 9

<211> 500

<212> DNA

<213> Hepatitis C virus

<400> 9

```
acccgcccccc taataggggc gacactccgc catgaatcac tccccctgtga ggaactactg 60
tcttcacgca gaaagcgtct agccatggcg ttagtatgag tgtgtacag cctccaggcc 120
ccccccccc gggagagccca tagtggctgc cggaaaccgggtg gagtacaccgg gaattgccccgg 180
gaagactggg tccttcttgg gataaaccca ctctatgccc ggccatttggg gcgtgcccc 240
gcaagactgct tagccgagta gcgttgggtt gcgaaaggccc ttgtgtactg gcctgatagg 300
gtgttcgca gtgccccggg aggtctctgt accgtgcac catgagcacaa aatcctaaacc 360
ctcaaagaaaa aacccacaga aacactaacc gtcgcccacaa agacgtaag tttccggcgg 420
cgccgcaagat cgttggcggag gtatacttggt tgccgcgcagg ggccctaga ttgggtgtgc 480
gcacgacaag gaagacttcgg 500
```

<210> 10

<211> 500

<212> DNA

<213> Hepatitis C virus

<400> 10

```
acccgccccct aataggggcg acactccgcc atgaatcaat cccctgttag gaactactgt 60
cttcacgcag aaagcgtcta gccatggcgt tagtatgagt gtcgtacagc ctccaggccc 120
ccccctcccg ggagagccat agtggctgc ggaaccgggtg agtacaccgg aattgccccgg 180
aagactgggt ctttcttgg ataaacccac tctatgccc gccatttggg cgtgcccccg 240
caagaccgct agccgagtag cgttgggttg cgaaaggcct tgtgtactg cctgataggg 300
tgcttcgag tgccccggga ggtctctgt accgtgcacc atgagcacaa atcctaaacc 360
tcaaagacaa accaaaagaa acaccaaccg tcgcccacaa gacgtaaggt ttccggcgg 420
cgccagatc gtggcggag tatacttggt gccgcgcagg ggcccccaggt tgggtgtgcg 480
cgcgacaagg aagacttcgg 500
```

<210> 11
<211> 500
<212> DNA
<213> Hepatitis C virus

<400> 11
gcccgcggcc tgatggggc gacactccgc catgaatcac tccccgtga ggaactactg 60
tcttcacgca gaaagcgtct agccatggcg ttagtatgag tgtcgtagc cctccaggcc 120
ccccccccc gggagagcca tagtggctg cggaaaccgt gagtacaccg gaattacccg 180
aaagactggg tcctttctt gataaaccca ctctatgtcc ggtcattgg gcacgcccc 240
gcaagactgc tagccgagta gcgttgggtt gcgaaaggcc ttgtggact gcctgatagg 300
gtgcttgcga gtgcggggg aggttcgtt gaccgtcat catgagcaca aatcctaacc 360
ctcaaagaaa aacccaaaga aacacaacc gcccggccaca ggacgtaag ttccgggtg 420
gcggtcagat cttggcgga gttacttgc tgccgcgcag gggccccagg ttgggtgtgc 480
gcgcgacaag gaagacttct 500

<210> 12
<211> 311
<212> DNA
<213> Hepatitis C virus

<400> 12
gcgtgtctca tgccggccc cgctggttct gtttttgccct actccctgctc gctgcagggg 60
taggcatacta cctccccc aaccgatgaa gttggggta aacactccgg cctcttaagc 120
catttcgtt tttttttttt tttttttttt ttttttttctt tttttttttc ttcccttcc 180
ttttttttt cccttcttt tccctcttt aatggtggtt ccatcttagc cctagtcacg 240
gctagctgtg aaaggtccgt gagccgcattt actgcagaga gtgctgatac tggcctctct 300
gcagatcatg t 311

<210> 13
<211> 371
<212> DNA
<213> Hepatitis C virus

<400> 13
gtccagctgg ttctgtggctg gttacagcgg gggagacata tatcacagcc tgcgttcgtgc 60
ccgaccggc tggttcatgt tgcctact cctactttca gttagggtagt gcatctaccc 120
gctcccaac cgataaaacgg ggagctaaac actccaggcc aataggccat ttcttttttt 180
ttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 240
ctttctttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 300
gctagctgtg aaaggtccgt gagccgcattt actgcagaga gtgctgatac tggcctctct 360
gcagatcatg t 371

<210> 14
<211> 439
<212> DNA
<213> Hepatitis C virus

<400> 14
tgggcgttga agaccaagct caaactcaact ccattgcgg aagcgcgcct cctggattta 60
tccagctgg tcaactgtcg gcccggcggg ggcgcacattt atcacagcgt gcccgtgcc 120
cgaccggcgt tattactccct tggcctactc ctactttttt taggggttagg ctttttccct 180
ctccccgtc ggttagagcgg cacacattag ctacactcca tagctaactg tccctttttt 240
tttggttttt tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 300
ttccttctca ttcccttctt atcttaattt cttccctttcc ttgtggctcc atcttagccc 360
tagtcacggc tagctgtgaa aggtccgtga gccgcattt gtcagagatt gcccgtactg 420
gtatctctgc agatcatgt 439

<210> 15

<211> 347
<212> DNA
<213> Hepatitis C virus

<400> 15
cctggattta tccagctgg tcactgtcg cgccggcggg ggcgacattt atcacagcgt 60
gccgcgtgcc cgaccccgct tattactcct tggcctactc ctacttttg taggggttagg 120
ccttttccta cttccccgctc ggttagagcgg cacacattag ctacactcca tagctaactg 180
tccctttttt ttttttttt tgtttctttt ccttctcatt tccttcttat cttattact 240
ttttttctg gtggctccat tttagcccta gtcacggcta gctgtgaaag gtccgtgagc 300
cgcatgactg cagagattgc cgtaactggc atctctgcag atcatgt 347

<210> 16
<211> 360
<212> DNA
<213> Hepatitis C virus

<400> 16
tttattccagt tggtttaccg tcggcgccgg cgggggcgac atttatacaca gcgtgtcg 60
tgcccgaaccc cgcttattac tccttagcct actcctactt ttcgtagggg taggcctctt 120
tttactcccc gtcggtaga gcggcacaca ttagctacac tccatagcta actgttcctt 180
ttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 240
ttttttttct ttcccttcctt tctcacccctt tttaacttct ttccctggtagg ctccatctt 300
gccctagtcg cgcttagctg tgaaaggtcc gtgagccca tgactgcaga gagtgcgcga 360

<210> 17
<211> 378
<212> DNA
<213> Hepatitis C virus

<400> 17
ggacttatcc agttggttca ccgtcgccgc cggcgggggc gacattttt acagcgtgtc 60
gcfgccccga ccccgctcat tactttcgg cctactccctt cttttctgttag gggtaggcct 120
cttcctactc cccgctcggt agagcggcac acacttaggtt cactccatag ctaactgttc 180
ttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 240
cctctttctt cccttctcat ttattttctt tttttttttt ggtggctcca tcttagccct 300
agtacggct agtggtaaa ggtccgttagg ccgtatgact gcagagatg ccgtactgg 360
tctctctgca gatcatgt 378

<210> 18
<211> 374
<212> DNA
<213> Hepatitis C virus

<400> 18
ggatttgtcc agttggttta ccgtcgccgc cggcgggggc gacattttt acagcgtgtc 60
gcfgccccga ccccgctcat tactttctt cctactccctt cttttctgttag gggtaggcct 120
cttcctactc cccgctcgat agagcggcac acatttagcta cactccatag ctaactgttc 180
ttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 240
tttctttccct tctcatcttta ttctactttt tttcttggtag gctccatctt agccctggc 300
acggcttagct gtggaaaggtc cgtgagccgc atgactgcag agatgtccgt aactggtctc 360
tctcgagatc atgt 374

<210> 19
<211> 354
<212> DNA
<213> Hepatitis C virus

<400> 19
tagattttatc cgggtggttc accgtggcg ccggcggggg cgacatctt cacagcgtgt 60

cgcatgccc accccgccta ttactcctt gcctactcct acttagcgta ggagtaggca 120
tcttttact ccccgctcg tagaggcgca aaccctagct acactccata gctagtttc 180
ttttttttt tttttttttt tttttttttc ctcttttcc gtatttttt 240
ttttcctct tttcttggtg gctccatctt agccctagtc acggctagct gtgaaaggc 300
cgtgagccgc atgactgcag agagtgcgt aactggtctc tctgcagatc atgt 354

<210> 20
<211> 21
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5'-UTR target siRNA

<400> 20
ggaacuacug ucuucacgca g 21

<210> 21
<211> 21
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5'-UTR target siRNA

<400> 21
gccauagugg ucugcggAAC c 21

<210> 22
<211> 22
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5'-UTR target siRNA

<400> 22
aggccuugug guacugccug au 22

<210> 23
<211> 20
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5'-UTR target siRNA

<400> 23
gucucguaga ccgugcauca 20

<210> 24
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5'-UTR target siRNA

<400> 24

gcgaaaggcc ttgtggtact g	21
<210> 25	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: 5'-UTR target siRNA	
<400> 25	
gtctcgtaga ccgtgcacca	20
<210> 26	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: 5'-UTR target siRNA	
<400> 26	
gucucguaga ccgugcauca t	21
<210> 27	
<211> 21	
<212> RNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: 5'-UTR target siRNA	
<400> 27	
ggaacuacug ucuucacgca g	21
<210> 28	
<211> 21	
<212> RNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: 5'-UTR target siRNA	
<400> 28	
gccauagugg ucugcgaaac c	21
<210> 29	
<211> 22	
<212> RNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: 5'-UTR target siRNA	
<400> 29	
aggccuugug guacugccug au	22
<210> 30	

<211> 20
<212> RNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5'-UTR target siRNA

<400> 30
gucucguaga ccgugcauca 20

<210> 31
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5'-UTR target siRNA

<400> 31
gcgaaaggcc ttgtggtaact g 21

<210> 32
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 5'-UTR target siRNA

<400> 32
gtctcgtaga ccgtgcacca 20

<210> 33
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 3'-UTR target siRNA

<400> 33
ggctccatct tagccctagt c 21

<210> 34
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: 3'-UTR target siRNA

<400> 34
ggctagctgt gaaagggtccg t 21

<210> 35
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:primer
Ds5-41-S25

<400> 35
actccccgtt gaggaactac tgtct 25

<210> 36
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:primer
Ds3-8864-S25

<400> 36
aggatgattc ttagtgcacca tttct 25

<210> 37
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:primer
Ds3-9267-S23

<400> 37
gcgggggaga catatatcac agc 23

<210> 38
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:primer
Ds5-201-S25

<400> 38
tggatcaacc cgctcaatgc ctgga 25

<210> 39
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:primer
Ds5-261-S25

<400> 39
tagtgttggg tcgcgaaagg ccttg 25

<210> 40
<211> 25
<212> DNA
<213> Artificial Sequence

<220>		
<223> Description of Artificial Sequence:primer		
Ds5-311-S25		
<400> 40		25
gagtgcggcg ggaggtctcg tagac		
<210> 41		
<211> 23		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Description of Artificial Sequence:primer		
Ds5-612-R23		
<400> 41		23
ccctcgttgc catagagggg cca		
<210> 42		
<211> 25		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Description of Artificial Sequence:primer		
Ds5-857-R25		
<400> 42		25
aaccggcaa attccctgtt gcata		
<210> 43		
<211> 25		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Description of Artificial Sequence:primer		
Ds3-9537-R25		
<400> 43		25
gactagggct aagatggagc cacca		
<210> 44		
<211> 23		
<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Description of Artificial Sequence:primer		
Ds3-9611-R23		
<400> 44		23
acatgatctg cagagaggcc agt		
<210> 45		
<211> 23		
<212> DNA		

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer
Ds5-397-R23

<400> 45

gcggcggttg gtgttacgtt tgg

23

<210> 46

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer
Ds5-360-R25

<400> 46

ttaggatttg tgctcatgat gcacg

25

<210> 47

<211> 572

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PCR product
siRNA-1

<400> 47

actcccctgt gaggaactac tgtcttcacg cagaaagcgt cttagccatgg cgtttagtatg 60
agtgtcggtgc agcctccagg accccccctc ccggggagagc catagtggtc tgcggaaaccg 120
gtgagttacac cgaaattgcc aggacgaccg ggtcctttct tggatcaacc cgctcaatgc 180
ctggagattt gggcggtccc ccgcgagact gctagccgag tagtgggg tcgcgaaagg 240
ccttgggtta ctgcctgata ggggtgctgc gagtgccccc ggaggtctcg tagaccgtgc 300
atcatgagca caaatcctaa acccccaaaga aaaaccaaac gtaacaccaa ccggccgccc 360
caggacgtca agttcccggg tggtggtcag atcgtgggtg gagtttacct gttgccgcgc 420
agggggccca ggttgggtgt gcgcgcgact aggaagactt ccgagcggtc acaacctcg 480
ggaaggcgac aacctatccc caaggctcgc cagcccgagg gcagggcctg ggctcagccc 540
gggtaccctt ggccctcta tggcaacgag gg 572

<210> 48

<211> 817

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:PCR product
siRNA-2

<400> 48

actcccctgt gaggaactac tgtcttcacg cagaaagcgt cttagccatgg cgtttagtatg 60
agtgtcggtgc agcctccagg accccccctc ccggggagagc catagtggtc tgcggaaaccg 120
gtgagttacac cgaaattgcc aggacgaccg ggtcctttct tggatcaacc cgctcaatgc 180
ctggagattt gggcggtccc ccgcgagact gctagccgag tagtgggg tcgcgaaagg 240
ccttgggtta ctgcctgata ggggtgctgc gagtgccccc ggaggtctcg tagaccgtgc 300
atcatgagca caaatcctaa acccccaaaga aaaaccaaac gtaacaccaa ccggccgccc 360
caggacgtca agttcccggg tggtggtcag atcgtgggtg gagtttacct gttgccgcgc 420
agggggccca ggttgggtgt gcgcgcgact aggaagactt ccgagcggtc acaacctcg 480
ggaaggcgac aacctatccc caaggctcgc cagcccgagg gcagggcctg ggctcagccc 540

```

gggttacccctt ggcggccctcta tggcaacgag ggcatggggt gggcaggatg gctcctgtca 600
cccccgccgct cccggccctag ttggggcccc acggaccccc ggcgttaggtc gcgttaatttg 660
ggtaagggtca tcgataaccct cacatcgccg ttcgcccggacc tcatggggtta cattccgcctc 720
gtcggcgcccc ccctaggggg cggttgcggagg gcccctggcac atggtgtccg gggttgtggag 780
gacggcggtga actatgcAAC agggaaatttg cccgggtt

```

<210> 49
<211> 674
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR product
 siRNA-3

```

<400> 49
aggatgattc tgatgaccca tttcttctcc atccttctag cccaggagca acttgaaaaa 60
gccctggatt gccagatcta cggggcctgt tactccattg agccacttga cctacctcg 120
atcattgaac gactccatgg tcttagcgca ttttcactcc atagttactc tccaggtgag 180
atcaataggg tggcttcatg cctcaggaaa cttggggtac cacccttgcg agtctggaga 240
catcgggcca gaagtgtccg cgctaagctg ctgtcccagg gggggagggc tgccacttgt 300
ggtaagtacc tcttcaactg ggcagtaagg accaagctca aactcactcc aatcccggca 360
gcgtccccagt tggacttgtc cagctggttc gtggctgggtt acagcggggg agacatatat 420
cacagcctgt ctcgtccccg accccgctgg ttcatgttgt gcctactcct actttcaagta 480
ggggtaggca tctacctgtc ccccaaccga taaacgggga gctaaacact ccaggccaat 540
aggccatttc tttttttttt tttttttttt tttttttttt tttttttttt tttttttttt 600
tttttttttt tttttttctt tcttttgttt tttttttttt tcttctttt ggtggctcca 660
tcttagccct agtc                                         674

```

<210> 50
<211> 748
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR product
 sirNA-4

<210> 51
<211> 357
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR product
siRNA-5

<400> 51
actccccctgt gaggaactac tgtcttcacg cagaaagcgt ctagccatgg cgtttagtatg 60
agtgtcggtc agcctccagg accccccctc ccggggagagc catagtggtc tgcggaaaccg 120
gtgagtagac cggaaattgcc aggacgaccg ggtccttct tggatcaacc cgctcaatgc 180
ctggagattt gggcggtgccc ccgcgagact gctagccgag tagtgttggg tcgcgaaagg 240
ccttggtgta ctgcctgata gggtgcttgc gagtgccccg ggaggtctcg tagaccgtgc 300
atcatgagca caaatcctaa accccaaaga aaaaccaaacc gtaacaccaa ccggccgc 357

<210> 52
<211> 345
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR product
siRNA-6

<400> 52
gcgggggaga catatatcac agcctgtctc gtgcccgacc ccgcgtggtc atgttgtgcc 60
tactccctact ttcaatgttggg gtaggcatact acctgctccc caaccgataa acggggagct 120
aaacactcca ggcataatagg ccattcttt tttttttttt tttttttttt tttttttttt 180
tttttttttt tttttttttt tttttttttt ttttctttct tttttttttt tttttttttct 240
tctttttttgt ggctccatct tagccctagt cacggcttagc tgtgaaaggt ccgtgagccg 300
catgactgca gagagtgctg atactggcct ctctgcagat catgt 345

<210> 53
<211> 197
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR product
siRNA-7

<400> 53
tggatcaacc cgctcaatgc ctggagattt gggcggtgccc ccgcgagact gctagccgag 60
tagtgttggg tcgcgaaagg cttgtggta ctgcctgata gggtgcttgc gagtgccccg 120
ggaggtctcg tagaccgtgc atcatgagca caaatcctaa accccaaaga aaaaccaaacc 180
gtaacaccaa ccggccgc 197

<210> 54
<211> 100
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:PCR product
siRNA-8

<400> 54
tagtgttggg tcgcgaaagg cttgtggta ctgcctgata gggtgcttgc gagtgccccg 60
ggaggtctcg tagaccgtgc atcatgagca caaatcctaa 100

<210> 55
<211> 50
<212> DNA
<213> Artificial Sequence

<223> Description of Artificial Sequence:PCR product
siRNA-9

<400> 55 qagtgcccccggaggtctcgtagaccgtgcatcatgagcaaaatcctaa 50

<210> 56
<211> 9611
<212> DNA
<213> Hepatitis C virus

aactcaagt	ccgtacttcg	tacgcgccc	agggctcatt	cgtgcatt	tgttggtgcg	3120
gaaggtagcc	gggggccatt	atgtccaaat	ggcctttgt	aagtgcaccg	cactgacagg	3180
tacgtacgtt	tatgaccatc	taactccact	gcgggacttg	gcccacgcgg	gcctgcgaga	3240
cctcgccgtg	gcagtagagc	ccgttgtctt	ctctgacatc	gagaccaagg	tcatcacctg	3300
ggggcagac	accgcagcg	gtggggacat	tatcttgggt	ctaccgtct	ccgccccaa	3360
gggttagggag	atacttctgg	ggccggccga	tagtcttggaa	gggcgggggt	ggcggctcc	3420
tgctccatc	acggcctatt	cccaacagac	gcggggccct	cttggttgc	tcatcaactag	3480
cctcacaggc	cgggacaaaa	accaagtcga	ggggggaggtt	caagtggtct	ccaccgcgac	3540
acaatccctc	ctggcgacct	gcgtcaatgg	cgcgtgctgg	actgtcttcc	atggtgcgg	3600
ctcaaagacc	ttagctggcc	caaaaggtcc	aatcacccag	atgtacacta	atgtagacct	3660
ggacctcg	ggctggcagg	cgccccccgg	gtcgcgttct	ctgacaccat	gcacctgcgg	3720
cagctcagac	ctctatTTgg	tcacgagaca	tgctgtatgtc	attccggtgc	gccggcgggg	3780
cgacagtagg	ggaagcctac	tctctccag	acctgtctcc	tacttggaaag	gctcctcggg	3840
tggtcccg	ctctgccc	cgaggcacgc	tgtgggcattc	ttccgggctg	ctgtgtgcac	3900
ccgggggtt	gccaaggcgg	tggatttcat	acccgttggaa	tcaatggaaa	ctactatgcg	3960
gtctccgtc	ttcacggata	actcatcccc	cccgcccgta	ccgcagacat	tccaagtggc	4020
ccatctacac	gcccctactg	gcagcggcaa	gagcaactaag	gtgcggctg	catatgcagc	4080
ccaagggtat	aagggtctcg	tcctgaaccc	gtccgttggc	gctacccctgg	gttttggggc	4140
gtatatgtct	aaggcacatg	gtatcgaccc	caacatcaga	actggggtaa	gggcacatcac	4200
cacgggcg	ccattatcat	actccaccta	cggaagttc	cttgcgcacg	gcgggttggc	4260
cgggggcg	tatgacatca	taatatgtga	tgagtggccac	tcaactgact	cgactaccat	4320
cttgggcatt	ggcacagtc	tggaccaagc	ggagacgggt	ggagcgcggc	tcgtcgtgct	4380
cgccacccgt	acgcctccgg	gatcggtcac	cgtgcacac	cccaatattt	aggagggtggc	4440
cctgtccaa	gctggagaaa	tccccccta	cgccaaagcc	atccccattt	aggtcatcaa	4500
ggggggaa	catctcattt	tctgcattt	caagaagaag	tatgacgagc	tcgcccacaa	4560
gctatcagcc	ctcgactta	atgctgttagc	atattatcg	ggtcttgc	tgtccgtcat	4620
accgaccaac	ggagacgtcg	ttgtcggtgc	aacagacgt	ctaattgacgg	gctttacccg	4680
cgactttgac	tcagtgtatcg	actgttaacac	atgtgtcacc	cagacagtcg	atttcagcc	4740
ggatccacc	ttcaccatcg	agacgacgac	cgtgcacccaa	gacgcagtgg	cgcgatcaca	4800
gcggcg	aggactggta	ggggcaggag	aggcatctac	aggtttgc	ctccaggaga	4860
acggccctcg	ggcatgttc	attccctcggt	cctgtgtgag	tgctatgacg	cgggctgtgc	4920
ttggtagc	ctcacgcctg	ctgagaccc	gtttaggttgc	cgggcttacc	tgaatacacc	4980
agggttgc	gtctggcagg	accatctgg	gttttggggag	agcgtcttca	caggcctcac	5040
ccacatagat	gcccatttt	tgtcccgac	taaacaggca	ggagacaact	tcccctaccc	5100
ggtagcatac	caagccacag	tgtgcggcag	agctcaagt	ccacccctat	catgggatca	5160
aatgtgaa	tgtctcatac	ggctcaaacc	cacgcgtc	gggcacac	ccctgtgt	5220
taggcttag	gcccgtccaa	atgagatcac	cctcacacac	cccatgacca	aatttcatcat	5280
ggcatgc	tccgtgtacc	tggaggtcg	cactagcacc	tgggtgc	taggcggagt	5340
cctgcag	ctggctgtc	attgtttgc	aacaggcagt	gtggcatttgc	tgggttagat	5400
catcttgc	gggaggccgg	ctgttattcc	cgacaggggaa	gtcccttacc	gggagttcga	5460
tgagatggaa	gagtgcgc	cacacccccc	ttatcatcg	cagggatgc	agcttgcga	5520
gcaatttca	cagaaggcgc	tcggattgt	gcaaaacaggc	accaagca	cggaggctgc	5580
tgctccgt	gtagaatcca	agtggcgagc	ctttgagacc	ttctggcga	agcacatgt	5640
gaatttcatc	agcgggatac	agtaacctagc	aggcttgc	actctgcctg	ggaaccccg	5700
gatagcatca	ctgatggcat	tcacagcc	tatcaccagc	ccgcttcca	cccagaatac	5760
ccttattt	aaatctgg	ggggatgggt	ggctgcacca	ctcgcccccc	ccagtgc	5820
ttcggctt	gtgggcggc	gtatcgcc	tgcggctgtc	ggcagcatag	gtctggaa	5880
ggtgcgt	gacatcttgg	cgggatattgg	ggcaggggt	gctggcgc	tcgtactt	5940
taagatcat	agcggcgagg	tgccctcc	cgaggaccc	gttaacttac	tccctgc	6000
cctcttccc	ggcgccttag	tcgtcg	cgatgtgc	gcaataactgc	gtcggcacgt	6060
ggggccgg	gagggggctg	tacagtgg	gaaccggct	atagcgttgc	cctcgcgggg	6120
taaccacgtt	tcccccg	actatgtgc	tgagagcgc	gctgcggc	gtgttactca	6180
gatccttcc	ggccttacca	tcactcag	gctgaagagg	cttaccact	ggatcaatga	6240
ggactgtcc	acgcacatgt	ccgggtcg	gctaaggat	gtttggact	ggatatgcac	6300
ggtgcgt	gacttcaaga	cctggcttca	gtccaagctc	ctgcgc	taccgggggt	6360
cccttctt	tctgtcaac	gcccgtacaa	gggagtctgg	cgggggacg	gtatcatgc	6420
gaccac	ccgtgtggaa	cacagatc	ggcagatgtc	aaaacgg	ccatgaggat	6480
cgtcg	aaaacctgc	gcagcacgt	gcatggaa	ttccccatca	acgcatacac	6540
cacagg	tgcgcaccc	ccccggc	aaactatttcc	agggcctat	ggcgggtggc	6600
cgctgagg	tacgtggagg	ttacgcgg	gggggatttgc	cactacgt	cgggcatgac	6660
cactgaca	gtaaagtgc	catgcagg	tccggccct	gaatttca	ctgagggtgg	6720
tggagtgc	ttgcacaggt	acgcctcc	gtgcaaa	ctccatc	aggaggtc	6780
attccagg	gggctcaacc	aatacctgg	tgggtc	ctccatgc	agcccgaacc	6840
ggatgt	gtgctaactt	ccatgcttac	cgacccctcc	cacatcac	cagagacggc	6900

aaagcgtagg	ctggcttaggg	ggtctccccc	ctccttggcc	agttttcag	ctagccagtt	6960
atctgcgcct	tccttgaagg	cgacatgcac	tacccatcat	gactccccgg	acgttgacct	7020
catcgaggcc	aacctcctgt	ggcggcagga	gatgggcggg	aacatcaccc	gcgtggagtc	7080
agagaataag	gtagtaattt	tggactcttt	cgatccgc	cgagcggagg	aggacgagag	7140
ggaaccatcc	gttgcggcgg	agatcttgcg	aaaaaccaag	aggtttttcc	cggcgatgcc	7200
catatggca	ccccggatt	acaacccctcc	gttgcctag	tccttggaaag	acccggacta	7260
cgtccctccg	gttgtacacg	ggtgcggct	accacctacc	aaagtcctc	cgataccacc	7320
cccacggaga	aaggaggacgg	tagtccctgac	agagtccact	gtgttcttg	ccttggcgga	7380
gcttgcact	aagacctttt	gcagctccgg	gtcgtcgccc	gtcgtacagcg	gcacggcaac	7440
tgctccccc	gaccaggctt	ccgacacgg	cgaccaagga	tctgacgtt	atgcgtattt	7500
ctccatgccc	cctcttgagg	gagagccggg	ggaccccgat	ctcagcgacg	ggtcttggtc	7560
taccgtgagc	gaggaggccg	gtgaggacgt	catctgtgc	tcaatgtcct	acacatgac	7620
aggcgcttg	atcacgccc	gcgcgcgg	ggaaagcaag	ttgcccattca	acccgtttag	7680
caactcttg	ttgcgtcacc	acaacatggt	ctatgtaca	acatcccgca	gcgcaggcct	7740
acggcagaag	aaggtcaccc	ttgacagact	gcaagtcctg	gacgaccact	accgggacgt	7800
gctcaaggag	atgaaggcg	aggcgccac	agttaaaggct	aaactcctat	ccatagaaga	7860
agcctgttaag	ctgacgcccc	cacattcggc	catatccaaa	tttgctatg	gggcaaagga	7920
cgtccggAAC	ctatccagca	aggccgttaa	ccacatccgc	tccgtgtgga	aggacttgct	7980
ggaagacact	gagacaccaa	ttgacaccac	cgcatatggca	aaaagtggagg	ttttctgcgt	8040
ccaaccagag	aaaggaggcc	gcaaggccagc	tcgccttatac	gtattcccgag	acttgggggt	8100
tcgtgtatgc	gagaagatgg	ccctttatga	cggtgtctcc	accccttcctc	aggccgtgat	8160
gggctctca	tacggattcc	agtactcccc	ttgacagcgg	gtcgttcc	ttgtgaatgc	8220
ctggaaatca	aagaatgc	ctatggctt	ttcatatgc	acccctgtt	ttgactcgac	8280
agtcaactgag	agtgcacatcc	gtgttggagga	gtcaatttac	caatgttg	acttggcccc	8340
cgaagccaga	caggccataa	agtgcgtcac	agagcggctt	tacattgggg	gtcccctgac	8400
caattcaaaa	gggcagaact	gtggctatcg	ccgggtgccc	gctgactggcg	tgctgacgac	8460
cagctgcgg	aataccctta	catgttactt	gaaggccctt	gcaggctgtc	gagctcaaa	8520
gctccgggac	tgcacgatgc	tcgtgaacgg	agacgaccctc	gtcgtcatct	gtgagagtgc	8580
gggaacccaa	gaggatgagg	cgaacctacg	agtcttcacg	gaggctatga	ctaggtattt	8640
tgccccccccc	ggggaccggc	cccgaccaga	atacgacttt	gagctaataa	catcatgttc	8700
ctccaatgtg	tcggtcgcgc	acgatgcac	tggcaaaagg	gtataactacc	tcaccccgca	8760
cccctccacc	cccccttgcac	gggctgcgt	ggagacagct	agacacactc	cagtttaattc	8820
ctggcttaggc	aacatcatta	tgtatgcgc	caccttatgg	gcaaggatga	ttctgtatgac	8880
ccatttcttc	tccatccttc	tagcccgaga	gcaacttggaa	aaagccctgg	attgccagat	8940
ctacggggcc	tgttactcca	ttgagccact	tgaccttactt	cagatcattt	aacgactcca	9000
tggtcttagc	gcattttcac	tccatagtt	ctctccagtt	gagatcaata	gggtggcttc	9060
atgcctcagg	aaacttgggg	taccaccctt	gcgagtctgg	agacatcggt	ccagaagtgt	9120
ccgcgctaag	ctgctgtccc	agggggggag	ggctgcccact	tgtggtaagt	acctcttcaa	9180
ctgggcagta	aggaccaagc	tcaaactcac	tccaatcccg	gcagcgtccc	agttggactt	9240
gtccagctgg	ttcgtggctg	gttacagcgg	gggagacata	tatcacagcc	tgtctcgatc	9300
ccgaccggc	tggttcatgt	tgtgcctact	cctactttca	gtaggggtag	gcatctaccc	9360
gctcccccaac	cgataaacgg	ggagctaaac	actccaggcc	aataggccat	ttcttttttt	9420
ttttttttt	ttttttctt	ttttttttt	ttttttttt	ttttttttt	ttttttttt	9480
ctttctttt	ttttttttt	ttttttttt	ttttttttt	ttttttttt	ttttttttt	9540
gctagctgt	aaaggtccgt	gagccgcatt	actgcagaga	gtgctgatac	tggcctctct	9600
gcagatcatg	t					9611